

WHAT IS CLAIMED IS

1. A magnetic core composition for an xDSL modem transformer having a main component comprised of MnO: 22.0 to 34.5 mol% and ZnO: 12.0 to 25.0 mol% and the rest of substantially Fe_2O_3 .
2. The magnetic core composition for an xDSL modem transformer as set forth in claim 1, having a main component comprised of MnO: 23 to 33 mol% and ZnO: 13 to 24 mol% and the rest of substantially Fe_2O_3 .
3. The magnetic core composition for an xDSL modem transformer as set forth in claim 1, having a main component comprised of MnO: 23.8 to 24.2 mol%, ZnO: 23.0 to 23.4 mol%, and Fe_2O_3 : 52.6 to 53.0 mol%.
4. The magnetic core composition for an xDSL modem transformer as set forth in claim 1, having a main component comprised of MnO: 26.1 to 26.5 mol%, ZnO: 20.1 to 20.5 mol%, and Fe_2O_3 : 53.2 to 53.6 mol%.
5. The magnetic core composition for an xDSL modem transformer as set forth in claim 1, having a main component comprised of MnO: 23.0 to 23.4 mol%, ZnO: 23.4 to 23.8 mol%, and Fe_2O_3 : 53.0 to 53.4 mol%.
6. A magnetic core for an xDSL modem transformer having a main component comprised of MnO: 22.0 to 34.5 mol% and ZnO: 12.0 to 25.0 mol% and the rest of substantially Fe_2O_3 .
7. The magnetic core for an xDSL modem transformer as set forth in claim 6, having a main component comprised of MnO: 23 to 33 mol% and ZnO: 13 to 24 mol% and the rest of substantially Fe_2O_3 .
8. The magnetic core for an xDSL modem transformer as set forth in claim 6, having a main component comprised of MnO: 23.8 to 24.2 mol%, ZnO: 23.0 to 23.4 mol%, and Fe_2O_3 : 52.6 to 53.0 mol%.
9. The magnetic core for an xDSL modem transformer as set forth in claim 6, having a main component comprised of MnO: 26.1 to 26.5 mol%, ZnO: 20.1 to 20.5 mol%, and Fe_2O_3 : 53.2

to 53.6 mol%.

10. The magnetic core for an xDSL modem transformer as set forth in claim 6, having a main component comprised of MnO: 23.0 to 23.4 mol%, ZnO: 23.4 to 23.8 mol%, and Fe_2O_3 : 53.0 to 53.4 mol%.

11. A magnetic core for a transformer comprising
a bottom plate,
a columnar center leg rising from an approximate center of said bottom plate in a first direction, and
an outer leg rising from said bottom plate surrounding at least the two sides of the center leg in the first direction separated by a predetermined space,
a height of the center leg being lower than a height of said outer leg by exactly a predetermined gap and a through gap of substantially the same height as the height of the center leg being formed at part of the top of said outer leg.

12. The magnetic core for a transformer as set forth in claim 11, having a main component comprised of MnO: 22.0 to 34.5 mol% and ZnO: 12.0 to 25.0 mol% and the rest of substantially Fe_2O_3 .